

REMARKS

Claims 1, 3-5, 8, 11 13 and 15 stand rejected under 35 USC 103(a) as being unpatentable over Muroi in view of Karkozov. This rejection is respectfully traversed.

Independent claim 1 is directed to a curable composition that forms a continuous phase and a dispersoid at ambient temperatures, wherein the continuous phase is a liquid at ambient temperatures and comprises (a) a compound having two or more epoxy groups in a molecule, and the dispersoid comprises (b) a compound present as solid particles in a continuous phase at ambient temperatures and having two or more amino groups in a molecule, wherein the compound having two or more amino groups in a molecule is an aromatic amine compound having a benzoxazole structure.

As claimed, and as detailed in the specification, the curing agent, which is the benzoxazole compound having two or more amino groups (hereinafter simply referred to as “polyamino benzoxazole compound”), is provided in the same composition as a continuous phase epoxy compound. The polyamino benzoxazole compound and the epoxy compound are incompatible at ambient temperatures, which prohibits a curing reaction from occurring. As a result, even though these two compounds are provided together in the curable composition, they can be persevered in this manner at ambient temperatures. However, when heated, the curing agent dissolves in the continuous phase, which results in the production of a cured product (see the specification, page 4, lines 5-13). Since the curable composition of the present invention relies on the low solubility at ambient temperatures of the polyamino benzoxazole compound as a latent curing agent to achieve a stable curable composition, the polyamino benzoxazole compound does not require a coating layer in order to achieve a latent curing agent.

In Muroi the latent curing agent is spherical particles of an amine compound/epoxy compound adduct (reaction product of an amine compound and an epoxy compound), not an amine compound as claimed. This latent curing agent of Muroi is very different from the claimed

polyamino benzoxazole compound. The spherical particles in Muroi are obtained by reacting an amine compound and a polyfunctional epoxy compound at approximately a 1:1 ratio of the epoxy group in the epoxy compound to the active amino-hydrogen in the amine compound. See Muroi claim 1. At this ratio most of the active amino hydrogen atoms of the amine compounds react with the epoxy groups of the epoxy compounds. Accordingly, the obtained adduct particles would not contain amino hydrogen atoms as in the claimed curing agent.

To impart stability to the composition in Muroi, the polyfunctional isocyanate compound is absorbed onto the particles of the amine compound/epoxy compound adduct dispersed in the epoxy resin. These compounds react to form a polyurethane polymer and a polyurea polymer encapsulating film on surfaces of the particles. The latency of the agent is imparted by this thermal fusible film which prevents direct contact of the particles of the adduct with the epoxy resin. See Muroi column 3, lines 15-22 and 40-48. In contrast, as described above, the claimed curable composition utilizes the very slight solubility of the claimed polyamino benzoxazole compound at ambient temperatures to form a stable composition without the need for an encapsulating film.

In the pending action, the Examiner admits that Muroi does not disclose “the compound having two or more amino groups in a molecule is an aromatic amine compound having a benzoxazole structure,” but states that Karkozov discloses a benzoxazole with such a structure. According to the Examiner, one of ordinary skill in the art would be motivated to use the benzoxazole compound in Karkozov in the composition of Muroi because Karkozov “states that the use of the benzoxazole as a curing agent raises the pot life and the heat resistance of the epoxy composition.” As described above, however, Muroi describes a composition that relies on providing a coating to their curing agent to provide stability. Since the film protects these particles, there would be no motivation to use the benzoxazole compound in Muroi. Further, relying on the low solubility of the particles instead of the film disclosed in Muroi to provide stability to the composition in Muroi would change the principle of operation of the resultant compound. As MPEP

2143.01(VI) states: "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." *citing In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

In addition, Muroi actually teaches away from the use of the benzoxazole compound described in Karkozov. In Karkozov a 5-amino-2-(n-aminophenol)-benzoxazole (APBO) is used as the amine compound. In Moroi, the amine compound only has one active amino-hydrogen (see Moroi claim 1), because the reaction with the polyfunctional epoxy compound has to be stopped at the state of the addition reaction and polymerization has to be avoided. See Moroi column 6, lines 6-10). Accordingly, if APBO, which is a polyamino benzoxazole compound, is used, the reaction would proceed to polymerization.

Finally, the reaction for obtaining the adduct particles in Moroi is carried out in an organic solvent capable of dissolving both the amine compound and the epoxy compound but incapable of dissolving the adduct formed therefrom. Considering the slight solubility of the APBO (polyamino benzoxazole compound), one of ordinary skill in the art would not be motivated to use APBO for this reaction in Moroi.

For the foregoing reasons, the rejections of claims 1, 3-5, 8, 11 13 and 15 should be withdrawn.

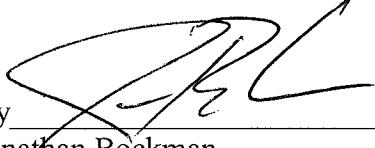
In view of the above, each of the claims in this application is in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event that the transmittal form is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief (such as payment of a fee under

37 C.F.R. § 1.17 (p)) is required, applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petition and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing **Docket No. 358362011200**.

Dated: August 18, 2010

Respectfully submitted,

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